

TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
AUXILIARY ANTENNA OPERATION FOR  
FM STATION KBFB(FM) (FACILITY ID 9627)  
DALLAS, TEXAS

AUGUST 10, 2004

CH 250C      51 KW-ND (H&V)      474 M

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Technical Narrative

This technical exhibit supports an application for construction permit for an auxiliary antenna operation for FM station KBFB(FM) on channel 250C (97.9 MHz) at Dallas, Texas (Facility ID 9627). According to the FCC's database, station KBFB(FM) is licensed to operate with a non-directional (ND) antenna system (BLH-19910515KB). The effective radiated power (ERP) is 100 kilowatts (kW), horizontal and vertical polarization (H&V). The antenna height above average terrain (HAAT) is 491 meters. The site coordinates are 32-35-15, 96-57-59 (NAD-27).

Station KBFB(FM) proposes to use the master FM antenna system on the nearby Richland tower at Cedar Hill, Texas for its auxiliary antenna operation. The FCC antenna structure registration number for the structure is 1059733 and the coordinates are 32-32-35, 96-57-32 (NAD-27). The proposed auxiliary antenna site is approximately 5 kilometers north of the KBFB(FM) main antenna site. The master antenna system is a Dielectric TAC-8FMB-3/24 non-directional, circularly polarized, panel type antenna system. The antenna incorporates a beam tilt of 0.75 degree (see Figure 2). The antenna center of radiation is 430 meters above ground level (AGL), and 678.1 meters above mean sea level (AMSL). The antenna HAAT is 474 meters (see Figure 1). The proposed KBFB(FM) auxiliary antenna ERP is 51 kW (H&V).

The FM antenna system station KBFB(FM) proposes to employ for its auxiliary antenna operation is also used by the following FM stations:

KLNO(FM) Aux., Ch.231C, Fort Worth, TX, Facility ID 41380

KLUV-FM Aux., Ch.254C, Dallas, TX, Facility ID 67195

KVIL-FM Aux., Ch.279C, Highland, TX, Facility ID 28624

KOAI(FM) Aux., Ch.298C1, Fort Worth, TX, Facility 23440

KRBV(FM), Ch.262C, Dallas, TX, Facility ID 63779

KLLI(FM), Ch.287C, Dallas, TX, Facility ID 1087

The following TV stations are also located on the tower:

KSTR-DT, Ch.48, Irving, TX, Facility ID 60534

KSTR-TV, Ch.49, Irving, TX, Facility ID 60534

KDFI-DT, Ch.36, Dallas, TX, Facility ID 17037

KDFI(TV), Ch.27, Dallas, TX, Facility ID 17037

KDAF-DT, Ch.32, Dallas, TX, Facility ID 22201

KDAF(TV), Ch.33, Dallas, TX, Facility ID 22201

KTXA-DT, Ch.18, Fort Worth, TX, Facility ID 51517

KDTN(TV), Ch.2, Denton, TX, Facility ID 49326

KDTN-DT, Ch.43, Denton, TX, Facility ID 49326

KDTX-DT, Ch.45, Dallas, TX, Facility ID 67910

KTAQ-DT, Ch.46, Greenville, TX, Facility ID 42359

KLDT(TV), Ch.55, Lake Dallas, TX, Facility ID 17433

KLDT-DT, Ch.54, Lake Dallas, TX, Facility ID 17433

KATA-LP, Ch.50, Class A, Mesquite, TX, Facility ID 26950

There are no AM stations within 5 kilometers (3 miles) of the proposed KBFB(FM) auxiliary antenna site. No adverse electromagnetic interference is expected.

The applicant recognizes its responsibility to correct prohibited electromagnetic interference problems that its proposed auxiliary antenna operation may create.

### Coverage Contours

The predicted 1 mV/m (60 dBu) coverage contour for the proposed KBFB(FM) auxiliary antenna operation is shown on Figure 3, along with the predicted 1 mV/m contour for the KBFB(FM) main antenna operation. As depicted, the proposed auxiliary 1 mV/m contour is located entirely within the 1 mV/m contour of the KBFB(FM) main antenna operation. Therefore, the proposal complies with Section 73.1675(a)(2) of the FCC's Rules.

### RF Energy Calculation

The proposed KBFB(FM) auxiliary antenna facility was evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed KBFB(FM) auxiliary antenna is located 430 meters above ground level. The total combined ERP is 102 kW (H & V). A relative field value of 0.25 is assumed for the antenna's downward radiation (see Figure 2). The calculated power density at a point 2 meters (6.6 feet) above ground level is  $0.0012 \text{ mW/cm}^2$ . This is less than 1% of the FCC's recommended limit

of  $0.2 \text{ mW/cm}^2$  for FM channels in an "uncontrolled" environment. It is also less than 1% of the recommended limit of  $1.0 \text{ mW/cm}^2$  for a "controlled" environment.

Access to the transmitting site will be restricted and appropriately marked with warning signs. As this is a multi-user site, an agreement will control access to the

site. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.

If there are questions concerning the technical portion of this application, please contact the office of the undersigned.

John A. Lundin

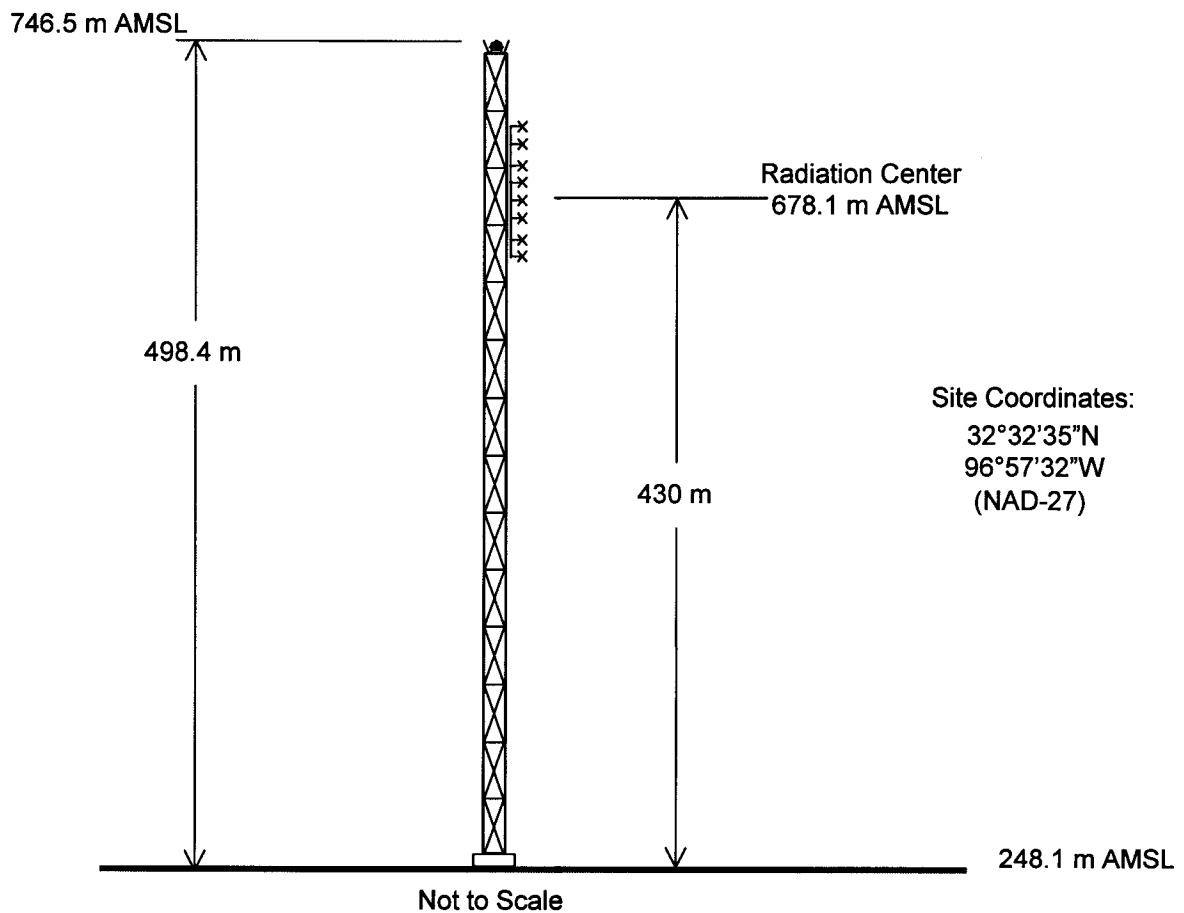
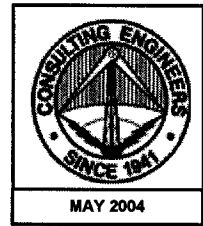
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August 10, 2004

Figure 1

FCC Tower ID: 1059733



## PROPOSED FM AUXILIARY ANTENNA

STATION KBFB(FM)

DALLAS, TEXAS

CH 250C 51 KW-ND (H&V) 474 M

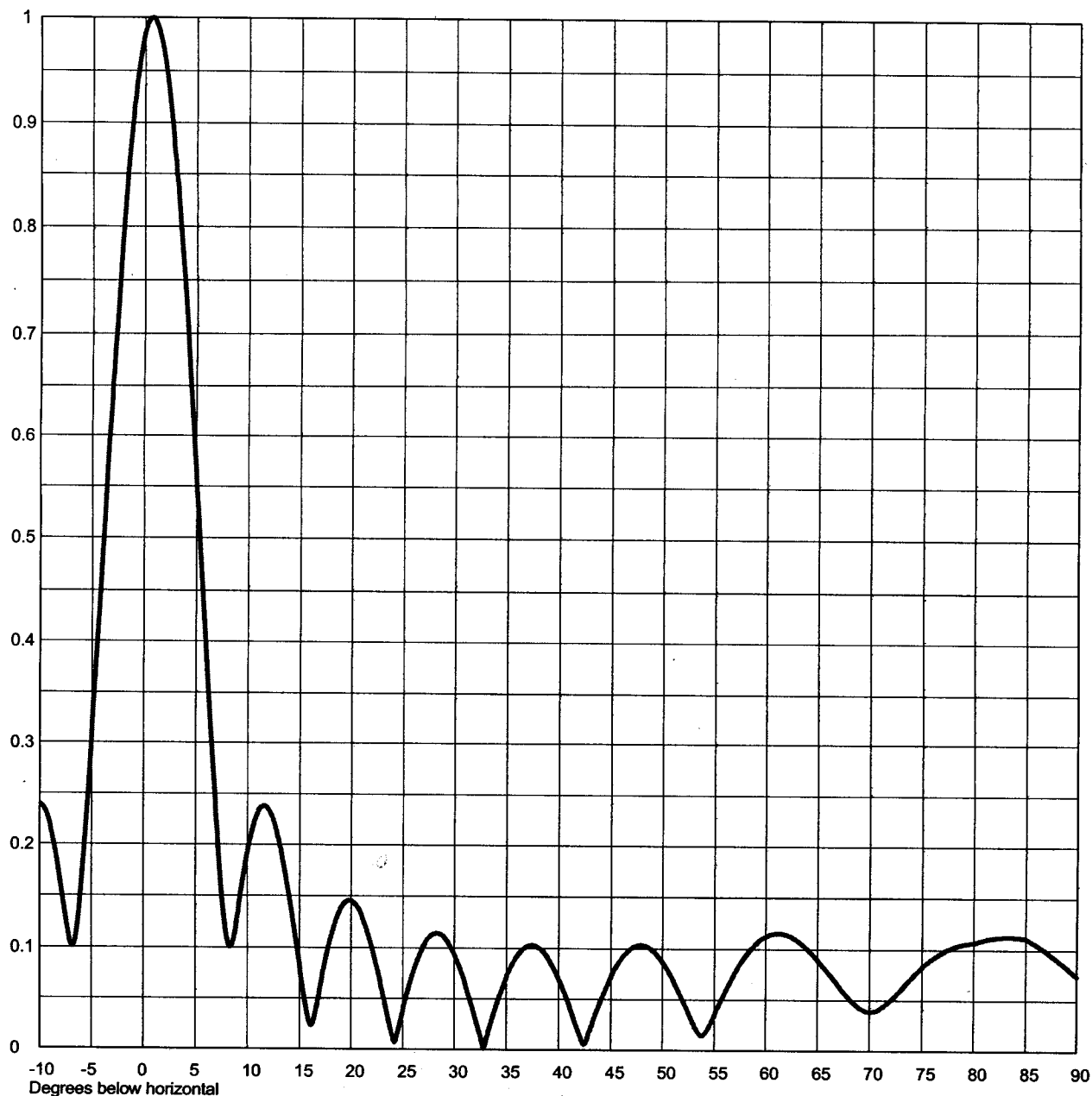
du Treil, Lundin & Rackley, Inc. Sarasota, Florida

# Dielectric

Proposal Number		Revision	
Date	27 May 2004		
Call Letters	KBFB-FM	Channel	250
Location	Dallas, TX		
Customer			
Antenna Type	TAC-8FMB-3/24		

## ELEVATION PATTERN

RMS Gain at Main Lobe	4.0 (6.02 dB)	Beam Tilt	0.75 Degrees
RMS Gain at Horizontal	3.9 (5.91 dB)	Frequency	97.90 MHz
Calculated / Measured	Calculated	Drawing #	08C080075-0979-90





# Dielectric

Proposal Number

Revision

Date **27 May 2004**

Call Letters **KBFB-FM**

Channel **250**

Location **Dallas, TX**

Customer

Antenna Type **TAC-8FMB-3/24**

## ELEVATION PATTERN

RMS Gain at Main Lobe

**4.0 (6.02 dB)**

Beam Tilt

**0.75 Degrees**

RMS Gain at Horizontal

**3.9 (5.91 dB)**

Frequency

**97.90 MHz**

Calculated / Measured

**Calculated**

Drawing #

**08C080075-0979**

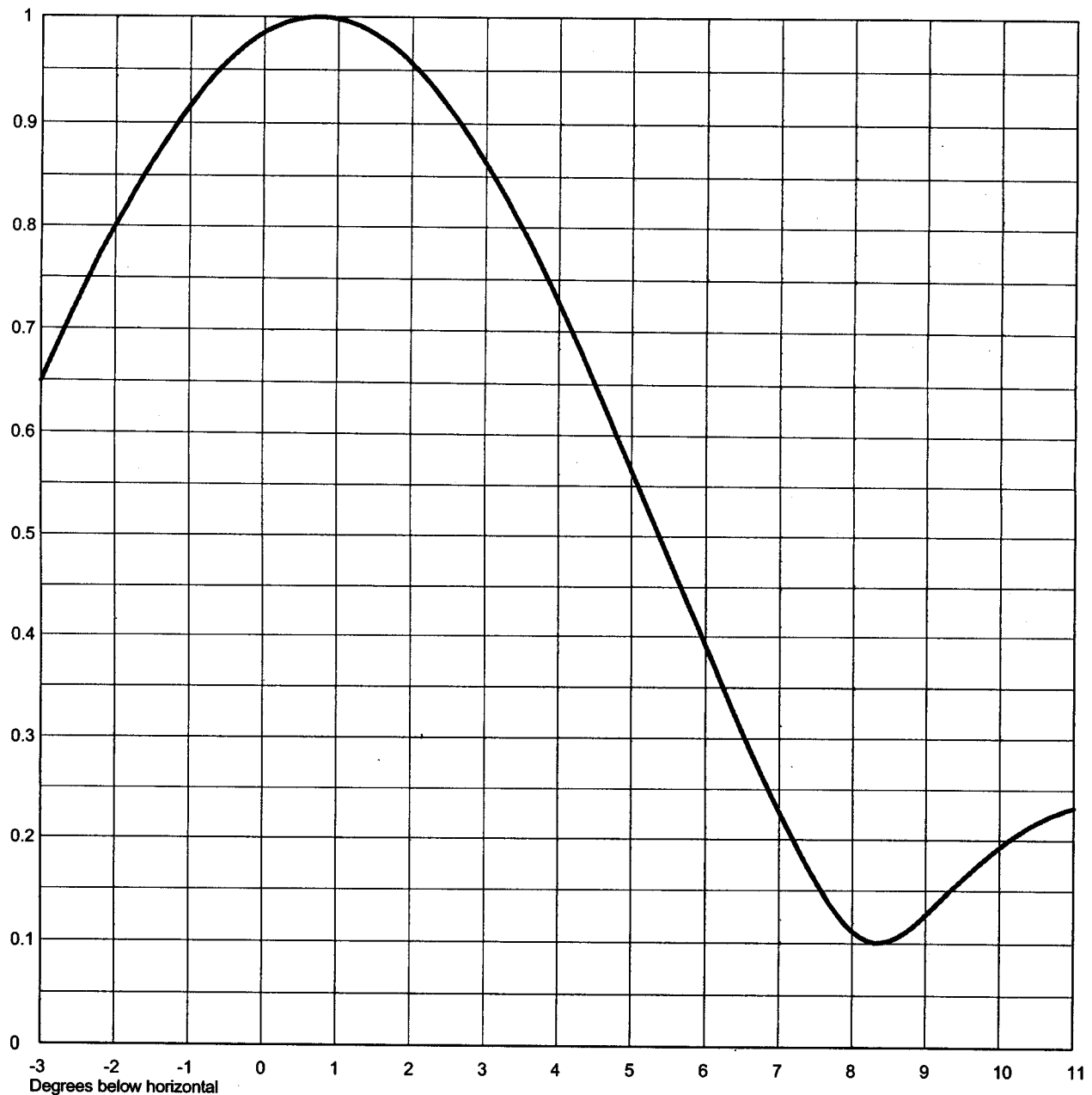
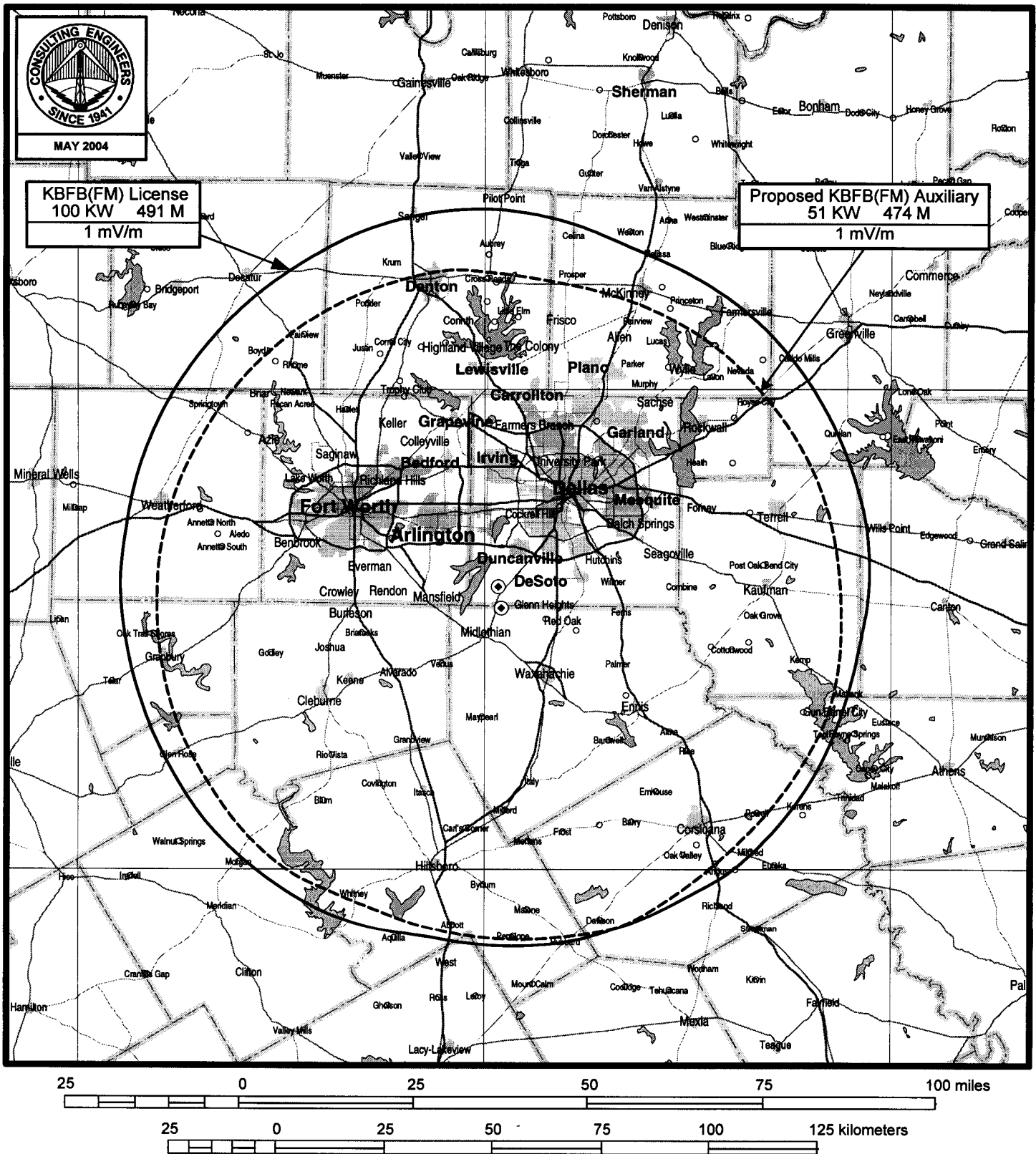


Figure 3



# **PREDICTED 1 mV/m COVERAGE CONTOURS**

FM STATION KBFB(FM)

DALLAS, TEXAS

CH 250C 51 KW-ND (H&V) 474 M

du Treil, Lundin & Rackley, Inc Sarasota, Florida